CONTRACT DATA REQUIREMENTS LIST

(1 Data Item)

Form Approved
OMB No. 0704-0188

A. CONTRACT LINE ITEM NO.	B. EXHIBIT	C. CATEGORY: TDP _____ TM _____ OTHER _____

D. SYSTEM/ITEM	E. CONTRACT/PR NO.	F. CONTRACTOR
F100-PW-200/-220 Engines		

1. DATA ITEM NO.	2. TITLE OF DATA ITEM	3. SUBTITLE
A001	Contractor's Configuration Management Plan	Nsn-2840-00-337-4352 Noun: Combustion Chamber Guide Pre-Production / First Article Plan

4. AUTHORITY *(Data Acquisition Document No.)*	5. CONTRACT REFERENCE	6. REQUIRING OFFICE
DI-CMAN-80858 / T		DSCR-JLTB

7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY	12. DATE OF FIRST SUBMISSION
SD	A	1Time	30DAC
8. APP CODE		**11. AS OF DATE**	**13. DATE OF SUBSEQUENT SUBMISSION**
A		N/A	N/A

17. PRICE GROUP

18. ESTIMATED TOTAL PRICE

16. REMARKS

Nsn-2840-00-337-4352 , Part# 4025364 (77445).

Block 4. Tailored:

The Contract Awardee shall provide a plan for approval that ensures all drawing and specification requirements are complied with prior to First Article sample manufacture. The Plan shall include the "equipment and facilities" used to verify all drawing(s), specifications, and process requirements. As a minimum, the Plan shall address the following criteria:

(a). A list of all drawing dimensions, surface texture, etc..., to be inspected and the equipment to be used for verification of each dimension, surface texture, etc... An actual drawing(s) shall be submitted with the Plan that correlates the dimensions on the drawing(s) to those identified on the list.

(b). A plan to verify that all non-destructive inspections are met, such as FPI per FPM Code 1.

(c). A plan to verify that all visual inspection rqmt's are met, VIS-46 & DCS-48.

(d). A plan to verify material properties which shall include material properties, metallurgical properties, and chemical compositions.

(e). A plan to ensure that all manufacturing processes are performed by the Original Equipment Manufacturer(OEM), Pratt and Whitney, certified vendors.

(f). A plan to ensure that the forging / casting source is OEM approved for the specific forging / casting requirement, as applicable.

(g). The Plan shall identify all external sources for applicable material and process requirements, such as PWA1042 and PWA44 as a minimum.

(h). The Plan shall identify GFE, GFM, and Tooling requirements if applicable.

(i). The Plan shall identify all aspects of Quality Assurance such as policies, organization, planning, procedures control, responsibilities, and interfaces including calibration, inspection and testing related criteria.

(j). The plan shall identify Sherry Labs Indiana or other for Qty-4 each testing.

Additional guidelines for this Plan are contained in LPF-QAR-003 and A002.

Block 7. The submitted "Pre-Production / FAT Plan" shall require approval.

Block 8. Plan approval shall be evaluated by OC-ALC/LPFRB, 45-days.

Block 14. Distribution as follows: Copy of the contract shall be provided with the Plan to; 1. DCM - QAR, Vendor DCM Office

2. Defense Supply Center Richmond (DSCR)
Attn: DSCR-JLP
8000 Jefferson Davis Highway
Richmond, VA 23297-5877

3. OC-ALC/LPFRB
3001 Staff Drive
Annex-4, Post 1AG1-115
Tinker AFB, OK 73145-3031

14. DISTRIBUTION

a. ADDRESSEE	b. COPIES Draft	Final Reg	Final Repro
DSCR-JLP PCO Richmond, VA	0	1	1
OC-ALC/LPFRB Tinker AFB, OK	0	2	0
DCM - QAR Vendor DCM	0	0	1
15. TOTAL →	0	3	2

G. PREPARED BY	H. DATE	I. APPROVED BY	J. DATE
Joseph Mesyk	01-23-2003	Joseph Mesyk	01-23-2003

CONTRACT DATA REQUIREMENTS LIST

(1 Data Item)

Form Approved
OMB No. 0704-0188

A. CONTRACT LINE ITEM NO.	B. EXHIBIT	C. CATEGORY: TDP _____ TM _____ OTHER _____

D. SYSTEM/ITEM	E. CONTRACT/PR NO.	F. CONTRACTOR
F100-PW-200/-220 Engines		

1. DATA ITEM NO.	2. TITLE OF DATA ITEM	3. SUBTITLE
A002	Test / Inspection Report	Nsn-2840-00-337-4352 Noun: Combustion Chamber Guide First Article Test / Inspection Report

4. AUTHORITY *(Data Acquisition Document No.)*	5. CONTRACT REFERENCE	6. REQUIRING OFFICE
DI-NDTI-80809B / T		DSCR-JLTB

7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY	12. DATE OF FIRST SUBMISSION
SD	A	1Time	30DATC

8. APP CODE	11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION
A	See Block 16	N/A

17. PRICE GROUP	
18. ESTIMATED TOTAL PRICE	

16. REMARKS

Nsn-2840-00-337-4352 , Part# 4025364 (77445).

Block 4. Tailored:

The First Article Test / Inspection Report shall satisfy all the requirements in the approved Pre-Production / First Article Test Plan. A copy of the process sheets used to manufacture the First Articles shall be included in the Test Report.

The Report shall address the following as a minimum, First Article Qty-7 each:

(a). Inspection Results by Electro-Methods Quality testing, Qty-3.

(b). Inspection/Test Results by Sherry Labs or other PWA approved lab, Qty-4.

(c). Material and process certifications.

The Report Analysis shall address the following as a minimum:

(a). Verify all dimensional and surface texture rqmt's of dwg 4025364 & spec's.

(b). Verify conformance of QAD 4025364, including FPI per FPM Code 1 and visual inspection per VIS-46 as well as DCS-48.

(c). Verify conformance of PWA44 para-3.4 and coating coverage rqmt's of dwg 4025364 and PWA44 para-3.5.

(d). Verify composition per PWA1042 by destructive examination, Qty-2. They shall also be utilized to verify coating thickness i/a/w PWA44 para-3.3.1.

(e). Verify conformance to PWA1042 para-3.4, 3.5, 3.6, and 3.7 on Qty-7. Provide evidence showing that the material used was from the certified lot of material. Process Sheets used to produce the parts shall clearly indicate that the certified lot of material was used to produce the parts.

Additional guidelines for the Test Report are contained in LPF-QAR-003.

DID-Element 10.2.6.4.2 Test / inspection results. Shall include certification(s) of material and process(es), material shall be acquired and external process(es) to be performed by Pratt and Whitney approved sources and labs.

Block 7. The Report shall be submitted to DSCR and OC-ALC for an evaluation and approval. "Acceptance" issued by the Contracting Officer(PCO) shall be based on OC-ALC approval, 45-days.

Block 11. Report is due no later than 180-days after contract award.

Block 14. Distribution as follows: Copy of the contract and drawing(s) shall be provided with the First Article Test Report to: 1. DCM - QAR, Vendor DCM

2. Defense Supply Center Richmond(DSCR)
Attn: DSCR-JLP
8000 Jefferson Davis Highway
Richmond, VA 23297-5877

3. OC-ALC/LPFRB
3001 Staff Drive
Annex-4, Post 1AG1-115
Tinker AFB, OK 73145-3031

14. DISTRIBUTION

a. ADDRESSEE	b. COPIES Draft	Final Reg	Final Repro
DSCR-JLP PCO Richmond, VA	0	1	1
OC-ALC/LPFRB Tinker AFB, OK	0	2	0
DCM - QAR Vendor DCM	0	0	1
15. TOTAL →	0	3	2

G. PREPARED BY	H. DATE	I. APPROVED BY	J. DATE
Joseph Kesyk Joseph Kesyk	01-23-2003	Joseph Kesyk Joseph Kesyk	01-23-2003

CONTRACT DATA REQUIREMENTS LIST

(1 Data Item)

Form Approved
OMB No. 0704-0188

A. CONTRACT LINE ITEM NO.	B. EXHIBIT	C. CATEGORY: TDP _____ TM _____ OTHER _____

D. SYSTEM/ITEM	E. CONTRACT/PR NO.	F. CONTRACTOR
F100-PW-200/-220 Engines		

1. DATA ITEM NO.	2. TITLE OF DATA ITEM	3. SUBTITLE
A003	Reliability Test Reports	Nsn-2840-00-337-4352 Noun: Combustion Chamber Guide Producttion Lot Test / Inspection Report

4. AUTHORITY *(Data Acquisition Document No.)*	5. CONTRACT REFERENCE	6. REQUIRING OFFICE
DI-TMSS-81586 / T		DSCR-JLTB

7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY	12. DATE OF FIRST SUBMISSION
SD	A	ASGEN	30DATC

8. APP CODE	11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION
A	See Block 16	N/A

17. PRICE GROUP

18. ESTIMATED TOTAL PRICE

16. REMARKS

Nsn-2840-00-337-4352 , Part# 4025364 (77445).

Block 4. Tailored:

Use / Relationship
The Vendor shall provide a Final Test Report on Production Lot Sample Testing and/or Inspection results for Qty-14 each of every lot size. Servicable products from First Article Testing(Qty-5) may be included in the first PLT Quantity.

Requirements
The Report shall address DID para-3 sub-headers a thru i as well as para-3.2 and para-3.3, delete Summary Report rqmt's para-3.1 and 3.1.1.

The Report Analysis shall address the following as a minimum:

(a). Verify all dimensional and surface texture rqmt's of dwg 4025364 & spec's.

(b). Verify conformance of QAD 4025364, including FPI per FPM Code 1 and visual inspection per VIS-46 as well as DCS-48.

(c). Verify conformance of Pratt & Whitney approved sources for material per PWA1042 and special process per PWA44.

(d). Verify test equipment utilized for each inspection / test and provide evidence of any applicable calibration record.

A copy of the Report shall be provided with Qty-14 each samples to be delivered traceable means for "Fit Check Testing" to:
OC-ALC/LPFRA
Attn: Steve Striebeck
3001 Staff Drive
Annex-4, Post 1AF1-113
Tinker AFB, OK 73145-3031

Mark For: F100-Engine PLT Samples, Contract, Nsn, Part Number. Vendor shall notify Steve Striebeck, 405-734-8704, 30-days prior to shipment of these samples and Report.

Block 7. The Report and Samples shall be submitted to OC-ALC for "fit check" and Approval. Vendor is only authorized to ship contract quantity upon written authorization from the DSCR-PCO based on OC-ALC Approval.

Block 11. Report is due no later than 300-days after contract award.

Block 14. Distribution as follows: Copy of the contract and drawing(s) shall be provided with the First Article Test Report to:

1. DCM - QAR, Vendor DCM Office
2. Defense Supply Center Richmond(DSCR)
   Attn: DSCR-JLP
   8000 Jefferson Davis Highway
   Richmond, VA 23297-5877
3. OC-ALC/LPFRB
   3001 Staff Drive
   Annex-4, Post 1AG1-115
   Tinker AFB, OK 73145-3031

14. DISTRIBUTION

a. ADDRESSEE	b. COPIES Draft	Final Reg	Final Repro
DSCR-JLP PCO Richmond, VA	0	1	1
OC-ALC/LPFRB Tinker AFB, OK	0	2	0
DCM - QAR Vendor DCM	0	0	1
15. TOTAL →	0	3	2

G. PREPARED BY	H. DATE	I. APPROVED BY	J. DATE
Joseph Lesyk	01-23-2003	Joseph Lesyk	01-23-2003

INSTRUCTIONS FOR COMPLETING DD FORM 1423

(See DoD 5010.12-M for detailed instructions.)

FOR GOVERNMENT PERSONNEL

Item A. Self-explanatory.

Item B. Self-explanatory.

Item C. Mark (X) appropriate category: TDP - Technical Data Package; TM - Technical Manual; Other - other category of data, such as "Provisioning,""Configuration Management," etc.

Item D. Enter name of system/item being acquired that data will support.

Item E. Self-explanatory (to be filled in after contract award).

Item F. Self-explanatory (to be filled in after contract award).

Item G. Signature of preparer of CDRL.

Item H. Date CDRL was prepared.

Item I. Signature of CDRL approval authority.

Item J. Date CDRL was approved.

Item 1. See DoD FAR Supplement Subpart 4.71 for proper numbering.

Item 2. Enter title as it appears on data acquisition document cited in Item 4.

Item 3. Enter subtitle of data item for further definition of data item (optional entry).

Item 4. Enter Data Item Description (DID) number, military specification number, or military standard number listed in DoD 5010.12-L (AMSDL), or one-time DID number, that defines data content and format requirements.

Item 5. Enter reference to tasking in contract that generates requirement for the data item (e.g., Statement of Work paragraph number).

Item 6. Enter technical office responsible for ensuring adequacy of the data item.

Item 7. Specify requirement for inspection/acceptance of the data item by the Government.

Item 8. Specify requirement for approval of a draft before preparation of the final data item.

Item 9. For technical data, specify requirement for contractor to mark the appropriate distribution statement on the data (ref. DoDD 5230.24).

Item 10. Specify number of times data items are to be delivered.

Item 11. Specify as-of date of data item, when applicable.

Item 12. Specify when first submittal is required.

Item 13. Specify when subsequent submittals are required, when applicable.

Item 14. Enter addressees and number of draft/final copies to be delivered to each addressee. Explain reproducible copies in Item 16.

Item 15. Enter total number of draft/final copies to be delivered.

Item 16. Use for additional/clarifying information for Items 1 through 15. Examples are: Tailoring of documents cited in Item 4; Clarification of submittal dates in Items 12 and 13; Explanation of reproducible copies in Item 14.; Desired medium for delivery of the data item.

FOR THE CONTRACTOR

Item 17. Specify appropriate price group from one of the following groups of effort in developing estimated prices for each data item listed on the DD Form 1423.

a. Group I. Definition - Data which is not otherwise essential to the contractor's performance of the primary contracted effort (production, development, testing, and administration) but which is required by DD Form 1423.

Estimated Price - Costs to be included under Group I are those applicable to preparing and assembling the data item in conformance with Government requirements, and the administration and other expenses related to reproducing and delivering such data items to the Government.

b. Group II. Definition - Data which is essential to the performance of the primary contracted effort but the contractor is required to perform additional work to conform to Government requirements with regard to depth of content, format, frequency of submittal, preparation, control, or quality of the data item.

Estimated Price - Costs to be included under Group II are those incurred over and above the cost of the essential data item without conforming to Government requirements, and the administrative and other expenses related to reproducing and delivering such data item to the Government.

c. Group III. Definition - Data which the contractor must develop for his internal use in performance of the primary contracted effort and does not require any substantial change to conform to Government requirements with regard to depth of content, format, frequency of submittal, preparation, control, and quality of the data item.

Estimated Price - Costs to be included under Group III are the administrative and other expenses related to reproducing and delivering such data item to the Government.

d. Group IV. Definition - Data which is developed by the contractor as part of his normal operating procedures and his effort in supplying these data to the Government is minimal.

Estimated Price - Group IV items should normally be shown on the DD Form 1423 at no cost.

Item 18. For each data item, enter an amount equal to that portion of the total price which is estimated to be attributable to the production or development for the Government of that item of data. These estimated data prices shall be developed only from those costs which will be incurred as a direct result of the requirement to supply the data, over and above those costs which would otherwise be incurred in performance of the contract if no data were required. The estimated data prices shall not include any amount for rights in data. The Government's right to use the data shall be governed by the pertinent provisions of the contract.

1. This document provides guidelines for the preparation of first article test plans/test reports for F100 engine parts where referenced within the first article data of a contract.

2. FIRST ARTICLE QUANTITY. The quantity of first articles shall be per the contract. The quantity of articles allowed for destructive testing, in accordance with the contract, shall be tested per the first article procedure in its entirety, to include the destructive testing. The remaining articles shall only be tested per the nondestructive portions of the procedure.

3. TESTING REQUIREMENTS.

3.1. Testing shall consist of, but shall not be limited to, the verification of the following.

3.1.1. Dimensional conformance including finish requirements.

3.1.2. Conformance to non-destructive inspection requirements (FPI, Ultra-sonic, Eddy Current, X-ray, visual)

3.1.3. Conformance of material properties to include mechanical, metallurgical and chemical.

3.1.4. Conformance to other required processes, specifications, and standards listed on the drawing including sub-tier specifications and standards, special requirements as described in the engineering instructions (EI), quality plans, etc.

3.2. First articles shall be serialized. Serial Numbers are to be identified prior to commencement of testing unless otherwise specified.

3.3. Dimensional Inspection.

3.3.1. All dimensions, as listed on the assembly drawing and detail drawings, to include drawing notes, shall be measured where possible on all first articles 100% (no sampling allowed).

3.3.2. A tabular format shall be used with drawing dimension, tolerance, measurement, and instrument/gage/tooling/serial number used.

3.3.3. All tooling and gaging used for inspection and acceptance/rejection of first articles shall have calibrations from a laboratory traceable to NIST and in accordance with ISO 10012-1 (formerly MIL-STD-45662), listed in a (tooling & gaging table) table, table shall include nomenclature, serial number, calibration frequency, next calibration date, range, least increment, and accuracy. Listing shall also include alignment tools and constraint fixtures.

3.3.4. Inspection results shall be presented in a table showing the feature measured, dimension and tolerance, actual reading and gage serial number used.

3.4. Nondestructive Inspections (NDI), including Fluorescent Penetrant Inspections (FPI), Ultrasonic Testing (UT), Eddy Current (EC), Radiographic Testing (x-ray), and visual inspections, shall meet the following:

3.4.1. All first articles shall receive 100% of the inspections identified on the QAD. Sampling shall not be allowed.

3.4.2. NDI shall be per the applicable specification(s).

3.4.3. Sources used shall be Pratt&Whitney approved per the OC-ALC/LPFR letter granting source approval to the contractor.

3.4.4. NDI results shall be presented in a table showing the feature inspected, acceptance/rejection criteria used, results and gage/master serial number used. In cases where photographic standards within a VIS specification are applied to an NDI, the inspection report shall include a copy.

3.4.5. Inspection Masters/Transfer Masters shall have current calibrations. A copy of the calibration(s) shall be included into the report.

3.4.6. Level III or Level II inspectors, as applicable, shall be required. A copy of the inspector's certification(s) shall be included into the report.

3.5. Visual Inspections shall include:

3.5.1. Specific visual inspections per a Pratt&Whitney Visual Inspection Standard (VIS) document shall be called out of the applicable VIS and cited as specific inspections.

3.5.2. Visual inspection results shall be presented in a table showing the feature inspected, acceptance/rejection criteria used, results, and gage/master serial number used (as applicable).

3.5.3. In cases where photographic standards within the VIS are used, the inspection report shall include a copy.

3.6. Material properties testing shall include mechanical properties, metallurgical properties, and chemical composition tests, as applicable, per the material specifications and the following:

3.6.1. Composition, heat treat condition, and other characteristics/properties, as listed in the technical requirements section, acceptance section, and/or quality sections of the specification(s) so as to verify that the materials and processes are sound, clean, and free of imperfections detrimental to the performance of the part or assemblies.

3.6.2. In some cases a material suppliers certification will not be sufficient and the Contractor shall have redundant testing performed.

3.6.3. Metallurgical microanalysis, as applicable, for raw materials, weldments, brazements, and coatings shall be conducted. Results shall include the complete laboratory report including photomicrographs.

3.6.4. Mechanical testing, as applicable, per manufacturing specifications and the drawing(s).

3.6.5. In cases where the applicable specifications require test reports, these shall accompany the First Article Test Report (FATR).

4. SUBMITTAL.

4.1. The First Article Test Plan (FATP) shall be delivered to the Contracting Officer in accordance with the schedule as listed in the contract, or Form DD1423. The FATP shall provide a detailed description of specific testing instructions to be used. Generalized instructions will not be acceptable.

4.2. The First Article Test Report (FATR) shall be delivered to the Contracting Officer in accordance with the schedule as listed in the contract, or Form DD1423. All laboratory test results, including those resultant from testing conducted at the contractor's facility and including sub-vendor testing, shall be provided with the FATR in their complete form as provided by the testing laboratory(ies).

5. DISPOSITION OF PARTS.

5.1. When required by the contract, the remnants from destructive testing shall be delivered with the First Article Test Report.

5.2. When required by the contract and following the completion of non-destructive testing, one article shall be delivered to the Contracting Officer and packaged in accordance with contract requirements. Marking on the package shall be **UNSERVICEABLE - Condition Code "R"**. Deliver this part with the First Article Test Report. The other(s) shall be handled in accordance with the contract.

6. GENERAL REQUIREMENTS.

6.1. All First Articles and all Production Articles shall be fabricated from material whose metallurgical state is in compliance with the drawing requirements, as well as all sub-tier specifications and standards referenced therein.

6.2. All First Articles and all Production Articles shall be new manufactured under this contract. No items manufactured under previous contracts shall be delivered without approval.

6.3. The subcontractors previously identified by the contractor as sources to be employed, to include laboratory testing, shall be the only sources used. If the contractor wishes to employ a subcontractor other than previously identified, they shall substantiate that the new source is OEM approved for the specific testing required. A change in the address of a source shall be construed as a change of source. Employment of alternate sources shall only be authorized byOC-ALC/LPFR.

6.4. Engineering Instructions shall take precedence over all other technical instructions.

---------- **END OF DOCUMENT** ----------

DATA ITEM DESCRIPTION

Title: Contractor's Configuration Management Plan

Number: DI-CMAN-80858B **Approval Date:** 20000930
AMSC Number: D7392 **Limitation:** N/A
DTIC Applicable: No **GIDEP Applicable:** No
Office of Primary Responsibility: D/DUSD(AT&L)SE
Applicable Forms: N/A
Use, Relationships: The Contractor's Configuration Management (CM) Plan describes the contractor's configuration management program, how it is organized, how it will be conducted, and the methods procedures and controls effective configuration identification, change control, status accounting, and audits of the total configuration, including hardware, software and firmware. The principle use is to provide the government a basis for review, evaluation and monitoring of the CM program and its proposed components.

This Data Item Description (DID) contains the content and preparation instructions for the data product resulting from the work task specified in the contract.

Data Item Description submittal in Extensible Markup Language (XML) is acceptable. An XML Document Type Definition (DTD), associated XML document template, and other information is available from http://www.geia.org/836/

This DID supersedes DI-CMAN-80858A.

Requirements:

1. Reference documents. The applicable issue of any documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as specified in the contract.

2. Format and content. The Contractor's CM Plan shall be prepared in contractor format. The Contractor's CM Plan content shall be in accordance with the contractor's processes and procedures, or as specified in the contract. The following references may be useful in defining content: ANSI/EIA-649-1998, National Consensus Standard for Configuration Management (paragraphs 5.2.5 and 5.3.3); ISO 10007, Quality Management-Guidelines for Configuration Management; and MIL-HDBK-61, Configuration Management Guidance (Section 2 and Appendix A).

END OF DI-CMAN-80858B

DATA ITEM DESCRIPTION

Form Approved
OMB No. 0704-0188

1. TITLE	2. IDENTIFICATION NUMBER
TEST/INSPECTION REPORT	DI-NDTI-80809B

3. DESCRIPTION/PURPOSE

3.1 The test/inspection report is used to document test/inspection results, findings, and analyses that will enable the government or contracting agency to evaluate compliance with system requirements, performance objectives, specifications, and test/inspection plans.

4. APPROVAL DATE (YYMMDD)	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)	6a. DTIC APPLICABLE	6b. GIDEP APPLICABLE
970124	F/AFMC-DOP		

7. APPLICATION/INTERRELATIONSHIP

7.1 This data item description (DID) contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract.

7.2 This DID is applicable to engineering (developmental), preliminary qualification, qualification, and acceptance testing.

7.3 This DID supersedes DI-NDTI-80809A and DI-MISC-80653.

8. APPROVAL LIMITATION	9a. APPLICABLE FORMS	9b. AMSC NUMBER
		F7231

10. PREPARATION INSTRUCTIONS

10.1 Format. Contractor format is acceptable. Organize the information required by paragraph 10.2 and its subparagraphs in a manner that facilitates presentation and understanding

10.2 Content. The test/inspection report shall contain the following information, as applicable.

10.2.1 Cover and title page. The following information shall appear on the outside front cover and title page:

a. Report date.
b. Report number (contractor or government)
c. Contractor's name, address, and commercial and government entity code.
d. Contract number and contract line item number or sequence number (if applicable).
e. Type of test/inspection (for example, first article acceptance test, quality conformance inspection, developmental test, qualification test, environmental test).
f. Identification of item tested/inspected.
g. Date or period of test/inspection.
h. Name and address of requiring government activity.
i. Security classification, downgrading and declassifying information, if applicable.

(Continued on page 2)

11. DISTRIBUTION STATEMENT

DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.

Block 10, Preparation Instructions (continued)

10.2.2 Table of contents. The table of contents shall identify the following:

a. The title and starting page of each major section, paragraph, and appendix of the report.
b. The page, identifying number, and title of each illustration (for example; figure, table, photograph, chart, and drawing).

10.2.3 Introduction. The introduction shall include the following information:

10.2.3.1 Test/inspection objective(s). The specific test/inspection objective(s) as specified in the contract tasking document.

10.2.3.2 Item(s) tested/inspected. Complete identification of the item(s) tested/inspected including the following:

a. Nomenclature.
b. National stock number.
c. Model number, part number, and serial number
d. Type of item (for example, prototype, production item, laboratory model).
e. Serial or lot number.
f. Applicable engineering changes.
g. Production item specification, if applicable.
h. Date of manufacture.

10.2.3.3 Test/inspection requirements. Complete identification of the test/inspection requirements correlated to contractual requirements including the following:

a. Required test/inspection parameters.
b. Performance requirements, acceptance or compliance limits, and environmental criteria.

10.2.4 Summary. Complete test/inspection report summary including the following:

a. A brief discussion of the significant test/inspection results, observations, conclusions, and recommendations covered in greater detail elsewhere in the report.
b. Proposed corrective actions and schedules for failures or problems encountered.
c. Identification of deviations, departures, or limitations encountered, referenced to the contract requirements.
d. Tables, graphs, illustrations, or charts as appropriate to simplify the summary data.

10.2.5 Reference documents. Complete identification of all documents referenced in the test/inspection report including the following, as applicable:

a. Prior test/inspection reports on the same item.
b. Test/inspection plans and procedure documents.
c. Prior certifications of compliance.
d. Contractor's file designation where test/inspection records are maintained.
e. Input parameters used.

The applicable issue of the documents cited therein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as specified in the contract.

10.2.6 Body of report. The body of the test/inspection report shall be as follows:

10.2.6.1 Test equipment identification. Complete identification of each item of test equipment used in the test/inspection including the following:

a. Nomenclature.
b. Model number.
c. Serial number.
d. Manufacturer.
e. Calibration status.
f. Accuracy data.
g. Comments, if applicable.

10.2.6.2 Test/inspection facility installation and set-up. Complete description of the physical set-up used in conducting the test/inspection to include the following:

a. Location or orientation of the item.
b. Location, orientation, or settings of test equipment and instrumentation.
c. Location, orientation, or settings of sensors and probes.
d. Location or orientation of interconnections, cables, and hoop-ups.
e. Electrical power, pneumatic, fluidic, and hydraulic requirements.

Drawings, illustrations, and photographs may be used for clarification.

10.2.6.3 Test/inspection procedures. Complete description of the procedures used in conducting the test/inspection to include the following:

a. Item selection and inspection that verified suitability for test/inspection.
b. Summarized sequence of testing/inspection steps, including a description of how the item was operated during the test/inspection, and any control conditions imposed.

10.2.6.4 Test/inspection results and analysis. A copy of all test/inspection results and analysis to include the following:

10.2.6.4.1 Recorded data. The actual recorded data (for example, log book entries, oscillographs, instrument readings, plotter graphs). If the recorded data is extensive, provide it in an appendix.

10.2.6.4.2 Test/inspection results. Identification of all test/inspection results to include the following:

a. Matrices comparing results achieved against test/inspection objectives or requirements.
b. A discussion of these matrices as to their significance, and how they compare to any prior test/inspections.
c. Calculation examples.
d. Discussion of anomalies, deviations, discrepancies, or failures, including their impact, causes, and proposed corrective actions. The discussion shall address discrepancies between design requirements and the tested/inspected configuration.

10.2.6.5 Conclusions. Test/inspection conclusions distinguished between objective and subjective to include the following:

a. The effectiveness of the test/inspection procedures in measuring item performance.

b. The success or failure of the item to meet required test/inspection objectives.
c. The need for repeat, additional, or alternative tests/inspections.
d. The need for item redesign or further development.
e. The need for improved test/inspection procedures, techniques, or facilities.
f. The adequacy and completeness of the test/inspection requirements.

10.2.6.6 Recommendations. Recommendations appropriate to the test/inspection results and conclusions including the following:

a. Acceptability of the item tested/inspected (pass or fail).
b. Additional testing/inspection required.
c. Redesign required.
d. Problem resolution.
e. Test/inspection procedure or facility improvements.
f. Disposition of items tested/inspected.
g. Documentation changes required.
h. Testing/inspection improvements.

10.2.7 Authentication. The following certifications shall be included, as applicable:

10.2.7.1 Authentication of test/inspection results. A statement that the test/inspection was performed in accordance with applicable test/inspection plans and procedures, and that the results are true and accurate. The authentication shall include the signature of the contractor personnel that performed the test(s)/inspection(s), a contractor representative authorized to make such certification, and any government witnesses.

10.2.7.2 Authentication of prior validation. A statement identifying those requirements not tested/inspected or measured that were previously validated. Include identification of the data and method employed for such validation (for example, prior test/inspection, analytical verification, equivalent item, and so on). The authentication shall include the signature of a contractor representative authorized to make such authentication and any government witness.

10.2.7.3 Authentication of acceptability. A statement that the item tested/inspected either passed or failed item acceptability requirements. This authentication shall include the signature of a contractor representative authorized to make such authentication and any government witness.

10.2.8 Appendices. Appendices shall be used to append detailed test/inspection data, drawings, photographs, or other documentation too voluminous to include in the main body of the report. This includes referenced documentation not previously provided by the government, and test/inspection reports from any associated test/inspection activity that may have performed some of the testing/inspecting requirements.

DATA ITEM DESCRIPTION

Title: Reliability Test Reports

Number: DI-TMSS-81586
AMSC Number: G7401
DTIC Applicable: N/A

Approval Date: 5 October 2000
Limitation: N/A
GIDEP Applicable: No

Office of Primary Responsibility: G/Y243
Applicable Forms: N/A

Use/relationship:
These reports are formal records of the results of the contractor's reliability tests and will be used by the procuring activity to evaluate the degree to which the reliability requirements have been met. The reports shall be periodic test summary reports (see 3.1 below) or Final Test Reports (see 3.2 below) as reflected in the contract. These reports may be used to report the results of reliability tests or tests from which reliability evaluation is a by-product.

Requirements:

1. Reference documents: None

2. Format: Contractor format is authorized.

3. Content: The Reliability Test Reports shall contain the results of each test or other action taken to demonstrate the level of reliability achieved in the contract end item and its constituent elements required by the contract. The reports shall specifically contain the following:

a. Test article identification and full description of test specimens utilized, including any deviations from the configuration specified in the applicable test plan.
b. Date and location of test or evaluation.
c. Statement of test/evaluation objectives, including type, unit of measure, and quantitative goals/requirements to be demonstrated.
d. Statistical confidence calculations, if appropriate.
e. Discussion of methods and conditions of the demonstration, including test plan used, environmental levels, test profile, methods of evaluating the data obtained and comparison of the conditions with those anticipated in ultimate deployment and use of contract item.
f. Results obtained, including specific identification and discussion of objectives demonstrated satisfactorily and those not demonstrated satisfactorily.
g. Corrective action anticipated, if applicable.
h. Contractor's conclusion and recommendations based on evaluation of the test/demonstration results.
i. Requirements for and results of retest in cases where a reject decision were reached.

3.1 Summary reports. Periodic Test Summary Reports shall consist of summaries of the progress or status of various reliability tests underway during the reporting period. All periodic summaries shall include the following:

a. Type and number of units on test and the type of test.
b. Total elapsed unit hours of test time during the period covered in the report.
c. Total number of equipment failures for each operational mode specified in the duty cycle.
d. Description of each failure problem area, related failure analysis, and corrective action.
e. Test conditions and analysis of any variation from specified conditions.
f. Present accept/reject status.
g. A chart showing a plot of the observed Mean Time Between Failures (MTBF) from start of test through the report period and the predicted value of MTBF for comparison.
h. The status and/or disposition of each corrective action

3.1.1 It is intended that the text of these reports be limited to brief, concise statements of significant progress and present status.

3.2 Final report. The Final Reliability Test Report shall include the information required by 3.1, items a. through h., and the results of the completed reliability tests or other action performed or evaluated to demonstrate reliability. The Final Report can be divided into two parts: Part 1, covering Reliability Qualification Testing, and Part 2, covering Production Reliability Acceptance Tests. Test reports shall include a failure summary and analysis and a general reliability analysis.

3.3 It is intended that the text of these reports be limited to brief and concise statements.

QUALIFICATION REQUIREMENTS FOR MANUFACTURE OF F100 ENGINE PARTS

P/N: Rev: 0
NSN: 20-Dec-01

I. HARDWARE DESCRIPTION

A. Nomenclature:

B. Function:

C. Material Composition:

II. REFERENCE DOCUMENTS

A. LPF-QAR-004: "General Quality Assurance Requirements For F100 Engine Components."

III. JUSTIFICATION FOR QUALIFICATION REQUIREMENTS

Ref.: FAR Subpart 9.2, AFMCFAR Subpart 5309.2

The following paragraphs provide the justification for qualification requirements for this part.

A. Criticality of Part:

This is a Critical Application Item (CAI) used on the F-15 and F-16 aircraft primary propulsion system, the Pratt & Whitney F100 engine. Failure of this part can result in secondary damage to the engine and subsequent mission abort.

B. Complexity of Part:

This part is not complex to manufacture, however, it is used in a critical location and must therefore require strict process control and quality standards.

C. Government Risk:

The following paragraphs document the reasons why the risk to the government of buying this part from an unqualified source is compound.

1. The probability of an unqualified source producing an unsatisfactory part is moderate.
2. The probability of an unqualified source failing to produce within schedule is moderate.
3. A high potential exists for an unqualified source to underestimate the manufacturing difficulty and miss critical delivery schedules.
4. Untimely delivery critically impacts end item overhaul/repair schedules. Failure to deliver on schedule may result in additional high cost emergency procurements.

5. An inferior part can cause extensive damage to the end item resulting in a high cost of repair.

D. There are no costs incurred by an offeror for qualification testing and testing evaluation under the requirements of paragraphs VI.A or VI.B. However, the offeror's development of a Source Approval Request (SAR) package to be submitted for Government evaluation may cost as much as $2500. In addition, the cost incurred by offerors for Government evaluation of their SAR submitted under the requirements of paragraphs VI.A or VI.B may be as much as $1,200. This cost may be borne by the Government if it is in the best interest of the Government to qualify alternate sources.

IV. JUSTIFICATION FOR QUALIFICATION PRIOR TO CONTRACT AWARD
Ref.: AFMCFAR Subpart 5309.2

The following paragraphs provide the rationale for requiring a demonstration of the qualification requirements prior to contract award.

A. The risk of default by the contractor must be minimized as the shortest combined administrative and production lead-time is over 18 months.

B. The technical risk must also be minimized due to the criticality of the part (Reference the section "Criticality of Part" in paragraph III.A).

C. The manufacturing and processing techniques are critical to performance and reliability (Reference the section "Criticality of Part" in paragraph III.A).

D. The risk to the government in determining a potential vendor's capability without an actual demonstration of that capability must be minimized. The expertise that is required to manufacture this part is not commonly available or easily obtained and therefore must be demonstrated. (Reference the section "Complexity of Part" in paragraph III.B).

V. DATA AND DOCUMENTATION REQUIREMENTS

The following paragraphs document the data that must be submitted with a request for source approval. All documentation submitted shall be the latest revision published. Documentation shall be bound (preferably a three ring binder) with a table of contents and corresponding sections tabbed.

A. The potential Offeror must substantiate that they possess latest revision of the following data by providing a copy in the source approval package, or must provide DCAS or other government representative written verification that the potential vendor has the latest revision of the following data:

1. Drawing Number: (Including all sub-assembly or detail drawings specified on this drawing number)

2. No QAD for top level drawings. As applicable, include the QAD for each sub-assembly or detail part listed on the above drawing.

3. All applicable specifications called out on the drawing, and/or assembly and detail drawings, and on the QAD (as applicable). These include:

   a) Process Specifications
   b) Inspection Processes
   c) Material Specifications

B. The potential Offeror's Quality Assurance System must meet or exceed the requirements described in the attached document LPF-QAR-004.

C. The vendor shall supply a list of all manufacturing and inspection processes that will be performed, both in-house or by sub-vendors. The vendor shall substantiate that sources to be employed for any significant process, including themselves, with the exception of conventional metal removal processes, are currently approved by Pratt & Whitney for the specific process required or another OEM for an equivalent process. The vendor must supply the name and address of each certified vendor to be used. In all cases where process approval is relative to an OEM process specification other than Pratt & Whitney, the vendor shall provide the complete specification and demonstrate the equivalence of the specifications.

VI. SUBSTANTIATION OF MANUFACTURING CAPABILITY

The following paragraphs document the methods to be used to substantiate a vendor's capability to manufacture this item.

A. A vendor who has manufactured the item for the prime contractor or for other US DoD users of the same item within the last five years may be approved as a source for the part provided that the vendor was responsible for all material procurement, inspection, and finishing of the end item, i.e., the prime manufacturer did not add any value to the end item. The vendor must submit evidence of the scope of work for the part indicating that they had primary responsibility for all operations necessary for the completion of the part for delivery to the customer. This evidence shall include MANUFACTURING PROCESS SHEETS.

B. Other vendors will be considered for approval on the basis of their ability to manufacture a similar item for the prime contractor, US DoD, or a NATO country. The following conditions must be met for approval by similarity:

   1. Submit evidence of the successful manufacture and sale of the similar item, to include purchase orders and shipping documents reflecting production quantities within the last five years. This evidence must document that the vendor had primary responsibility for all operations necessary to produce the similar item, and that the similar item was accepted by the customer. Also include a summary of quality deficiencies experienced within the last two years of production of the similar item(s) with coordination from the Q. A. manager.

The vendor shall provide SPECIFIC similarities and differences between the subject part and the similar part.

2. The vendor shall substantiate that the similar component(s) submitted will satisfy the following criteria:

   a) Fabricated of the same alloy or an alloy from the same alloy family, e.g. Alpha Titanium's, Inconels, Austenitic Stainless Steels.

   b) Illustrates the ability of the vendor, in conjunction with their sub-vendors, to perform all significant processes to be employed and maintain requisite tolerances and surface finish requirements.

   c) The data must also show that the manufacturing and inspection/test processes for the similar part demonstrate the full range of difficulty required for the subject part. Included in this data shall be complete MANUFACTURING PROCESS SHEETS for the similar item.

3. A first article requirement may be included in any contract resulting from approval based upon similarity. The estimated cost of first article testing is $1,500.00. These tests may include material properties analysis, dimensional analysis, and possibly rig test. At least three first articles would be required with one first article requiring destructive testing.

VII. RESPONSIBLE ENGINEERING ORGANIZATION

The responsible organization for establishing these qualification requirements is the F100 Engine Engineering Branch, within the Fighter Propulsion Division of the Oklahoma City Air Logistics Center, Tinker Air Force Base, Oklahoma.

GRIZELDA LOY-KRAFT, Chief
F100 Engineering Source Approval
Fighter Propulsion Division
Propulsion Directorate

Expires in
7 years

1 APPLICATION

These requirements apply to all F100 engine parts.

2 PURPOSE

This document establishes the minimum technical requirements that prospective sources must satisfy to obtain engineering approval of their quality system. All documentation provided as evidence of compliance with requirements specified herein must be in English. Engineering source approval shall be valid for five years from the date of the OC-ALC letter notifying the contractor of engineering source approval.

3 REQUIREMENTS

3.1 The Offeror must provide a Quality Assurance Manual that accurately portrays their current quality assurance system. The Quality Assurance System must meet or exceed the requirements as described in this document. Additionally, the Quality Assurance System must satisfy one of the following:

3.1.1 Certified to ISO 9002 by the American National Standards Institute (ANSI) or the International Standards Organization (ISO) in Geneva, Switzerland, or

3.1.2 Previously certified within the last three (3) years to MIL-I-45208A plus paragraphs 3.1 through 3.5, 5.1, 5.2, 6.1, and 6.2 of MIL-Q-9858A by the DCMC or other appropriate government Quality Assurance Representative, or

3.1.3 Approved by the Original Equipment Manufacturer (OEM).

3.2 Proof of certification/approval must be provided and must be dated within the last three (3) years. The decision to approve or disapprove the Quality Assurance System shall only be made after a thorough review of the Offeror's Quality Assurance Manual by the cognizant engineering authority, OC-ALC/LPFR.

3.3 Copies of the latest document(s) which describe and govern the quality assurance system in effect at the Offeror's facility(ies). If provided within the last year and no significant changes have been incorporated this requirement may be waived. However, OC-ALC/LPFR as the cognizant engineering activity for the F100 engine reserves the right to request an additional copy in the event the previous submittal cannot be located.

3.4 P&W documentation identifying the specific conditions/restrictions (i.e., specific P/Ns, components, processes, or material this status applies to, production testing required for material release, testing the LCS supplier is authorized to perform, etc.) imposed by P&W with regard to Laboratory Control at Source (LCS) Supplier status if Offeror is a P&W-approved LCS Supplier. The fact that a sub-vendor is a P&W LCS Supplier shall not relieve the Supplier of the responsibility of conducting follow-on quality assurance surveillance to ensure that sub-vendors are providing conforming material.

3.5 Evidence that the emphasis in quality assurance planning is placed upon controlling processes to preclude generation of non-conformance's and is supplemented by sufficient inspections or tests to assure effective process control.

3.6 Offeror procedures/specifications governing the control of significant processes proposed for use in the fabrication of the approval item for assuring that:

3.6.1 Only Purchaser approved sources are used for raw material, significant processes, and major sub-components and adequate consideration is given to a source's capability and performance prior to placing an order.

3.6.2 The quality acceptance standards imposed in routine production acceptance both in-house and by sub-vendors are complete and approved by P&W and the test methods employed in routine production acceptance are sufficient to verify compliance with these standards.

3.6.3 Fabrication performed in-house and by sub-vendors is accomplished in accordance with work instructions specified in manufacturing process sheets, schedules, and/or technical control plans which define the exact sequence of all production operations and all process variables and all critical parameters of manufacturing operations which may directly affect material structure, mechanical properties, surface finish and/or direction or lay of the cutting action. The procedure shall also assure that work instructions have been approved by the customer.

3.6.4 All inspection of characteristics, which serves as the basis for final acceptance of a characteristic, including in-process inspections, are performed in accordance with work instructions specified in inspection method sheets which define all characteristics specified on the applicable P&W drawings and Quality Assurance Documents (QAD's), the classification of each characteristic, the Acceptable Quality Level (AQL) for each classification of characteristic, sample size, frequency of inspection, the specific inspection methodology to be utilized, and the required instrumentation. The procedure(s) shall also assure that all inspection method sheets have been approved by the customer.

3.6.5 Specific Offeror audit procedures/guidelines which pertain to process and product audits performed both in-house and at sub-vendor facilities. These procedures shall, as a minimum assure:

3.6.5.1 Strict adherence to the sequence, parameters, and all other significant process variables of manufacturing operations defined on manufacturing process sheets approved by the customer is maintained both in-house and at sub-vendors' facilities. Specific procedures for auditing and/or controlling requisite significant processes must be provided.

3.6.5.2 Dedicated equipment is properly maintained and calibrated and is capable of adequately performing its intended application.

3.6.5.3 General housekeeping and manufacturing practices employed do not adversely affect the quality of the end product.

3.6.5.4 Established process controls and production acceptance plans are providing products which conform to the Purchaser requirements.

3.6.6 Specific Offeror procedures for assuring that certificates of test or conformance provided by sub-vendors of raw material and significant processes are complete and supported by process data and numerical test results from an OEM-approved laboratory for the requisite testing, are representative of material received, and the material is in conformance with Purchaser requirements.

3.6.7 Adequate records are retained for documenting sub-vendor lists, sub-vendor quality ratings, layout inspection reports, all Purchaser and OEM approvals, component traceability, and objective evidence of conformance to product, process, and quality acceptance requirements; and are available to the Purchaser upon request.

3.6.8 Evidence of a system for controlling non-conforming material to ensure:

3.6.8.1 The classification of all non-conforming characteristics in terms of critical, major, and minor is approved by the Purchaser.

3.6.8.2 Final disposition of all non-conforming critical and major characteristics including rework and repair is approved by the Purchaser prior to implementation.

3.6.8.3 Effective control of non-conforming material at sub-vendor facilities.

---------- **END OF DOCUMENT** ----------